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EXAMINER	
CAO, HUEDUNG X	

ART UNIT	PAPER NUMBER
2671	13

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/762,952	HAYASHI, ATSUSHI	
	Examiner	Art Unit	
	Huedung X Cao	2671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over ZORDAN et al. (Motion Capture-Driven Simulations that Hit and React) in view of MOORE et al. (Collision Detection and Response for Computer Animation).

As per claim 1, Zordan teaches the claimed "an image generation system" (Zordan, Abstract) comprising: "means for generating a motion of an object formed by a plurality of parts" (Zordan, figure 2, body as a combination of joint parts), "by moving an Nth part through a physical simulation based on the hit information" (Zordan, page 92, column 2, Reaction to the Contact) and "sequentially transmitting the hit information to the N+1th, N+2th, N+3th, ... parts so that the N+1th, the N+2th, the N+3th, ... parts are sequentially moved through a physical simulation based on the transmitted hit information" (Zordan, page 93, column 2, figure 7); and "means for generating an image including an image of the object on which the motion is generated" (Zordan, page 94, column 1, Boxing). It is noted that Zordan does not explicitly teach the detection of collision or the detecting of "when the Nth part is hit" as claimed. However, Moore teaches such detection of "when the Nth part is hit" is well known in the art (Moore,

page 290, column 1, collision detection). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the detection of being hit yields a realistic scene and enhances the game animation.

Claim 2 adds into claim 1 "the hit information is a force vector in the direction of hitting, and wherein each of the parts is moved through a rotation moment obtained by the force vector" which Zordan teaches in page 91, column 2, lines 20-27; page 94, column 2, lines 17-23 (see also Moore, page 293, column 2, lines 12-14).

Claim 3 adds into claim 2 "wherein the magnitude of the force vector is sequentially attenuated while being transmitted to each of the parts" which Zordan teaches in figure 7, and page 94, column 2, lines 29-30 (see also Moore, page 295, column 1, figure 5).

Claim 4 adds into claim 1 "a rotational resistance force acts on each of the parts depending on the angular velocity of each of the parts" which Zordan teaches in the updates of stiffness parameters (page 92, column 2, Reacting to Contact).

Claim 5 adds into claim 1 "a restoring force for returning an object back to a given posture acts on each of the parts" which Zordan teaches in page 92, column 2, lines 43-46 (" ... smoothes the return to tracking once the reaction is complete").

Claim 6 adds into claim 1"wherein processing is switched from a play of the object's motion based on motion data to a generation of the object's motion through the physical simulation when the object is hit" which Zordan teaches in figure 10 (page 94, column 2, "the user disturbs the dancer's motion with "playfull" jabs in the animation).

Claim 7 adds into claim 1 "wherein processing is switched from a generation of the object's motion through the physical simulation to a play of the object's motion based on motion data when a given condition is satisfied" which Zordan teaches in figure 10 (page 94, column 2, "the user disturbs the dancer's motion with "playfull" jabs in the animation).

As per claim 8, Zordan teaches the claimed "image generation system" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when a given condition is satisfied" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "regardless of a position of a shooter" as claimed. However, Moore teaches such "motion data" is well known in the art (Moore, page 296, column 2, Non-Dynamic Objects)). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the objects with normal activity regardless the interrupted factors before occurrence of collision yields a realistic scene and enhances the game animation.

As per claim 9, Zordan teaches the claimed "image generation system" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a play of the object's motion based on motion data to a generation o f the object's motion through a physical simulation when the object is hit" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "regardless of a position of a shooter" as claimed. However, Moore teaches such "motion data" is well known in the art (Moore, page 296, column 2, Non-Dynamic Objects). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the objects with normal activity regardless the interrupted factors before occurrence of collision yields a realistic scene and enhances the game animation.

Claim 10 adds into claim 9 "wherein processing is switched from the generation of the object's motion through the physical simulation to the play of the object's motion based on the motion data, in at least one of cases where a given time period has elapsed after the object has been hit and where a parameter relating to the object reaches a given value" which Zordan teaches in figure 7, the reaction to contact.

Claim 11 adds into claim 8 "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" which Zordan does not explicitly teach. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

Claim 12 adds into claim 9 "wherein the object is caused to perforrn a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" which Zordan does not explicitly teach. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 13, Zordan teaches the claimed "computer-usable program embodied in an information storage medium or a carrier wave, comprising a processing routine for realizing" (Zordan, Abstract) comprising: "means for generating a motion of an object formed by a plurality of parts" (Zordan, figure 2, body as a combination of joint parts), "by moving an Nth part through a physical simulation based on the hit information" (Zordan, page 92, column 2, Reaction to the Contact) and "sequentially transmitting the hit information to the N+1th, N+2th, N+3th, ... parts so that the N+1th, the N+2th, the N+3th, ... parts are sequentially moved through a physical simulation based on the transmitted hit information" (Zordan, page 93, column 2, figure 7); and "means for generating an image including an image of the object on which the motion is generated" (Zordan, page 94, column 1, Boxing). It is noted that Zordan does not explicitly teach the detection of collision or the detecting of "when the Nth part is hit" as claimed. However, Moore teaches such detection of "when the Nth part is hit" is well known in the art (Moore, page 290, column 1, collision detection). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the detection of being hit yields a realistic scene and enhances the game animation.

Claim 14 adds into claim 13 "wherein the hit information is a force vector in the direction of hitting, and wherein each of the parts is moved through a rotation moment obtained by the force vector" which Zordan teaches in page 91, column 2, lines 20-27; page 94, column 2, lines 17-23 (see also Moore, page 293, column 2, lines 12-14).

Claim 15 adds into claim 14 "wherein the magnitude of the force vector is sequentially attenuated while being transmitted to each of the parts" which Zordan teaches in figure 7, and page 94, column 2, lines 29-30 (see also Moore, page 295, column 1, figure 5).

Claim 16 adds into claim 13 "wherein a rotational resistance force acts on each of the parts depending on the angular velocity of each of the parts" which Zordan teaches in the updates of stiffness parameters (page 92, column 2, Reacting to Contact).

Claim 17 adds into claim 13 "a restoring force for returning an object back to a given posture acts on each of the parts" which Zordan teaches in page 92, column 2, lines 43-46 (" ... smoothes the return to tracking once the reaction is complete").

Claim 18 adds into claim 13 " wherein processing is switched from a play of the object's motion based on motion data to a generation of the object's motion through the physical simulation when the object is hit" which Zordan teaches in figure 10 (page 94, column 2, "the user disturbs the dancer's motion with "playfull" jabs in the animation).

Claim 19 adds into claim 13 "wherein processing is switched from a generation of the object's motion through the physical simulation to a play of the object's motion based on motion data when a given condition is satisfied" which Zordan teaches in figure 10 (page 94, column 2, "the user disturbs the dancer's motion with "playfull" jabs in the animation).

As per claim 20, Zordan teaches the claimed "computer usable program embodied in an information storage medium or a carrier wave, comprising a processing routine for realizing" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when a given condition is satisfied" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "regardless of a position of a shooter" as claimed. However, Moore teaches such "motion data" is well known in the art (Moore, page 296, column 2, Non-Dynamic Objects)). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the objects with normal activity regardless the interrupted factors before occurrence of collision yields a realistic scene and enhances the game animation.

As per claim 21, Zordan teaches the claimed "image generation system" (Zordan, Abstract) comprising: "computer usable program embodied in an information storage medium or a carrier wave, comprising a processing routine for realizing" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a play of the object's motion based on motion data to a generation o f the object's motion through a physical simulation when the object is hit" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "regardless of a position of a shooter" as claimed. However, Moore teaches such "motion data" is well known in the art (Moore, page 296, column 2, Non-Dynamic Objects)). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the objects with normal activity regardless the interrupted factors before occurrence of collision yields a realistic scene and enhances the game animation.

Claim 22 adds into claim 21 "wherein processing is switched from the generation of the object's motion through the physical simulation to the play of the object's motion based on the motion data, in at least one of cases where a given time period has elapsed after the object has been hit and where a parameter relating to the object reaches a given value" which Zordan teaches in figure 7, the reaction to contact.

Claim 23 adds into claim 20 "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" which Zordan does not explicitly teach. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

Claim 24 adds into claim 21 "wherein the object is caused to perforrn a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" which Zordan does not explicitly teach. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 25, Zordan teaches the claimed "image generation method" (Zordan, Abstract) comprising: "generating a motion of an object formed by a plurality of parts" (Zordan, figure 2, body as a combination of joint parts), "by moving an Nth part through a physical simulation based on the hit information" (Zordan, page 92, column 2, Reaction to the Contact) and "sequentially transmitting the hit information to the N+1th, N+2th, N+3th, ... parts so that the N+1th, the N+2th, the N+3th, ... parts are sequentially moved through a physical simulation based on the transmitted hit information" (Zordan, page 93, column 2, figure 7); and "means for generating an image including an image of the object on which the motion is generated" (Zordan, page 94, column 1, Boxing). It is noted that Zordan does not explicitly teach the detection of collision or the detecting of "when the Nth part is hit" as claimed. However, Moore teaches such detection of "when the Nth part is hit" is well known in the art (Moore, page 290, column 1, collision detection). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the detection of being hit yields a realistic scene and enhances the game animation.

Claim 26 adds into claim 25 "wherein the hit information is a force vector in the direction of hitting, the method further comprising: moving each of the parts through a rotation moment obtained by the force vector" which Zordan teaches in page 91, column 2, lines 20-27; page 94, column 2, lines 17-23 (see also Moore, page 293, column 2, lines 12-14).

Claim 27 adds into claim 26 "sequentially attenuating the magnitude of the force vector while the force vector is transmitted to each of the parts" which Zordan teaches in figure 7, and page 94, column 2, lines 29-30 (see also Moore, page 295, column 1, figure 5).

Claim 28 adds into claim 25 "acting a rotational resistance force on each of the parts depending on the angular velocity of each of the parts" which Zordan teaches in the updates of stiffness parameters (page 92, column 2, Reacting to Contact).

Claim 29 adds into claim 25 "acting a restoring force for returning an object back to a given posture on each of the parts" which Zordan teaches in page 92, column 2, lines 43-46 (" ... smoothes the return to tracking once the reaction is complete").

Claim 30 adds into claim 25 " switching processing from a play of the object's motion based on motion data to a generation of the object's motion through the physical simulation when the object is hit" which Zordan teaches in figure 10 (page 94, column 2, "the user disturbs the dancer's motion with "playfull" jabs in the animation).

Claim 31 adds into claim 25 "switching processing from a generation of the object's motion through the physical simulation to a play of the object's motion based on motion data when a given condition is satisfied" which Zordan teaches in figure 10 (page 94, column 2, "the user disturbs the dancer's motion with "playfull" jabs in the animation).

As per claim 32, Zordan teaches the claimed "image generation method" (Zordan, Abstract) comprising: "playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "switching processing from a play of the object's motion based on motion data to a generation o f the object's motion through a physical simulation when the object is hit" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "regardless of a position of a shooter" as claimed. However, Moore teaches such "motion data" is well known in the art (Moore, page 296, column 2, Non-Dynamic Objects)). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the objects with normal activity regardless the interrupted factors before occurrence of collision yields a realistic scene and enhances the game animation.

As per claim 33, Zordan teaches the claimed "image generation method" (Zordan, Abstract) comprising: "playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when a given

condition is satisfied" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "regardless of a position of a shooter" as claimed. However, Moore teaches such "motion data" is well known in the art (Moore, page 296, column 2, Non-Dynamic Objects)). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the objects with normal activity regardless the interrupted factors before occurrence of collision yields a realistic scene and enhances the game animation.

Claim 34 adds into claim 33 "switching processing from the generation of the object's motion through the physical simulation to the play of the object's motion based on the motion data, in at least one of cases where a given time period has elapsed after the object has been hit and where a parameter relating to the object reaches a given value" which Zordan teaches in figure 7, the reaction to contact.

Claim 35 adds into claim 32 "causing the object to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" which Zordan does not explicitly teach. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the

transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

Claim 36 adds into claim 33 "causing the object to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" which Zordan does not explicitly teach. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 37, Zordan teaches the claimed "image generation system" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when the object is hit" (Zordan, page 93, column 2, figure 7, Reacting to Contact). It is noted that Zordan does not explicitly teach the motion data "wherein the object is caused to perform a connecting motion which connects a motion generated by the

physical simulation with a motion played based on the motion data" as claimed. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 38, Zordan teaches the claimed "image generation system" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when a given condition is satisfied" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" as claimed. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it

would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 39, Zordan teaches the claimed "computer usable program embodied in an information storage medium or a carrier wave, comprising a processing routine for realizing" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when the object is hit" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" as claimed. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's

system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 40, Zordan teaches the claimed "computer usable program embodied in an information storage medium or a carrier wave, comprising a processing routine for realizing" (Zordan, Abstract) comprising: "means for playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "means for generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "means for switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when a given condition is satisfied" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" as claimed. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1, Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 41, Zordan teaches the claimed "image generation method" (Zordan, Abstract) comprising: "playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "generating the motion of the object through a physical simulation" (Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when the object is hit" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" as claimed. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

As per claim 42, Zordan teaches the claimed "image generation method" (Zordan, Abstract) comprising: "playing a motion of an object formed by a plurality of parts based on prestored motion data" (Zordan, page 90, column 1, Motion capture - background), "generating the motion of the object through a physical simulation"

(Zordan, page 92, column 2, balancing while tracking; page 94, column 1, Boxing) and "switching processing from a generation of the object's motion through a physical simulation to a play of the object's motion based on the motion data when a given condition is satisfied" (Zordan, page 93, column 2, figure 7, Reacting to Contact. It is noted that Zordan does not explicitly teach the motion data "wherein the object is caused to perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" as claimed. However, Moore teaches such "perform a connecting motion which connects a motion generated by the physical simulation with a motion played based on the motion data" is well known in the art (Moore, page 295, column 1,Articulated Rigid Bodies). Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made, in view of the teaching of Moore, to configure Zordan's system as claimed because the transition states' occurrence during the collision yields a realistic scene and enhances the game animation.

Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Huedung Cao** whose telephone number is **(703) 308-5024.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mark Zimmerman,** can be reached at **(703) 305-9798**.

Any response to this action should be mailed to:

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(703) 872-9314 (for Technology Center 2600 only)

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 305-0377.

Huedung Cao
Patent Examiner

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